

3.11.3.4 CLIMATE CHANGE

Climate change is affecting resources in the EIS Analysis area and trends associated with climate change are projected to continue into the future. Section 3.26.2 discusses climate change trends and impacts to key resources in the physical and biological environments including atmosphere, water resources, permafrost, and vegetation. Current and future effects on wetlands are tied to changes in physical resources and vegetation (discussed in Section 3.26.3).

3.11.4 ENVIRONMENTAL CONSEQUENCES

This section describes potential impacts to wetlands as a result of the proposed Donlin Gold mine site, transportation facilities, and natural gas pipeline. Summaries of potential impacts on wetlands, both direct and indirect, follow the criteria listed in Table 3.11-13.

Table 3.11-13: Impact Criteria for Effects on Wetlands

Impact Component	Effects Summary		
Magnitude or Intensity	Low: Impacts to <5% by acreage of high or moderate functioning wetlands or greater proportions of low functioning wetlands in the study area ¹ .	Medium: Impacts to 5 to 25% by acreage of high or moderate functioning wetlands in the study area ¹ .	High: Impacts to >25% by acreage of high or moderate functioning wetlands in the study area ¹ .
Duration	Short-term: Wetland functions may be reduced during construction but would be expected to return to near pre-activity level within several growing seasons after restoration.	Medium-term: Wetland functions would be reduced during construction but could return to near pre-activity functions after the action ceased within several decades after restoration.	Long-term: Wetland functions would be eliminated and would not be anticipated to return to previous functions after the action that caused the impacts ceased; or within more than several decades after restoration.
Geographic Extent	Local: Affects wetland systems within one or a few watersheds ² .	Regional: Affects wetland systems across multiple watersheds ² .	Extended: Affects extensive wetland systems across many watersheds ² .
Context	Common: Affects wetlands that are widespread and typical of the region.	Important: Affects wetlands that support important local or regional subsistence resources.	Unique: Affects wetlands that are rare or of very high quality.

Notes:

Proportions are based on percentages used in the Point Thomson EIS (Section 5.8; Table 5.8-1).

- 1 The wetland study areas defined in Section 3.11.3 are assumed to be generally representative of affected watersheds and the surrounding area.
- 2 Watersheds are defined as the National Hydrography Database Hydrologic Unit Code (HUC) 10-digit watershed boundary data (HUC 10 WBD).

Based on an evaluation of these criteria, summary conclusion levels could include:

- no effect – alternative would not affect the resource;
- negligible – impacts generally extremely low in intensity, are temporary, localized, and generally do not affect unique resources;
- minor – impacts tend to be low intensity, temporary duration, and local extent, although common resources may experience more intense, longer-term impacts;

- moderate – impacts can be any intensity or duration, although common and important resources may be affected by higher intensity, longer term, or broader extent impacts (unique resources may be medium or low intensity, shorter duration or intermittent impacts over a long period at a local or regional scale); or
- major – impacts generally medium or high intensity, long-term or permanent in duration, regional or extended scope, and affect important or unique resources.

In evaluating negative and positive impacts to wetlands, direct project footprint impacts are more clearly defined than indirect impacts to ground and surface water distribution from diversions and dewatering or impacts to wetland vegetation and soils from fugitive dust deposition or erosion and sedimentation. Relevant factors for this project include:

- The location and total area of project footprints within wetland habitats. Project footprints located within wetland habitats would change or eliminate large areas of wetlands.
- The type and function of wetlands that are covered by project footprints. Project footprints within potentially rare or high-functioning wetlands may be of greater consequence than project footprints within abundant or potentially low-functioning wetlands.
- Changes to ground and surface water distribution. Project-related activities which change ground or surface water distribution could inundate or dry wetlands leading to conversion of wetlands to water or upland.
- Changes to wetland vegetation cover and soils. Project-related activities that generate fugitive dust may result in deposition within wetlands which could alter wetland vegetation cover and reduce wetland functions. Project-related activities that increase erosion or sedimentation could alter wetland vegetation cover and reduce wetland functions.

3.11.4.1 ALTERNATIVE 1 – NO ACTION

Under the No Action alternative the Donlin Gold Project would not be constructed, therefore it would not have any effects on wetlands.

3.11.4.2 ALTERNATIVE 2 – DONLIN GOLD'S PROPOSED ACTION

Potential wetland impacts specific to Donlin Gold's proposed mine site, transportation facilities, and natural gas pipeline route are described in the following sections.

3.11.4.2.1 MINE SITE– CONSTRUCTION; OPERATIONS AND MAINTENANCE; AND CLOSURE, RECLAMATION, AND MONITORING

Construction; and Operations and Maintenance

Primary direct and indirect construction-related effects on wetlands would include:

- clearing and removal of wetland vegetation;
- placement of fill in wetlands;